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REPORT NO. 11

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CURRENT SOURCE REL. TO

Cotton Fiber and Processing Test Results

CROP of

1976



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 January 28, 1977

This is the last report for the 1976 crop. These reports were published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1975, USDA, AMS, Cotton Division, May 1976.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1976

Discussion of Test Results

Short staple cottons tested from the Southwestern Area through January 21 show fibers to be coarser and slightly weaker than last season, according to the Cotton Division, Agricultural Marketing Service, USDA. Shirley Analyzer nonlint content is lower, but picker and card waste is higher. Yarns spun from these samples are weaker, but show fewer imperfections than last season. Spinning potential yarn number is lower.

Average test results for all medium staple samples tested to date show slightly shorter and stronger fibers than a year ago. Shirley Analyzer nonlint content is lower, but picker and card waste is higher. Yarns spun from these samples show about the same quality characteristics as a year earlier.

Southeastern Area medium staple samples are slightly longer and more uniform than a year ago. Fibers are coarser and stronger. Shirley Analyzer nonlint content is lower. Yarn skein strength is higher. Yarn imperfections are fewer and the spinning potential yarn number is higher.

South Central medium staple samples are shorter, less uniform and stronger at zero gage fiber tests than a year ago. Shirley Analyzer nonlint content is lower, but picker and card waste is higher. Yarn strength and appearance grades are about the same as a year ago. Yarn imperfections are fewer. Spinning potential yarn number is lower.

Southwestern medium staple samples tested are slightly longer, more uniform, coarser and weaker at zero gage strength tests. Picker and card waste is higher. Yarns spun from these samples have higher appearance grades and show fewer imperfections than a year ago.

Medium staple samples from the West are slightly shorter and weaker than a year ago. Picker and card waste is higher. Yarns spun from these samples are weaker and show lower appearance grades than last season. Yarn imperfections are fewer. Spinning potential yarn number is lower.

Long staple samples tested through January 21 this season are longer, more uniform, and coarser than a year ago. Shirley Analyzer nonlint content and manufacturing waste are lower this season. Yarns spun from these samples are stronger and have fewer imperfections. The spinning potential yarn number is higher than a year ago.

No additional long staple samples were received during this test period.

American Pima extra long staple samples tested to date are longer and have about the same strength and mike properties as a year earlier. Both picker and card waste and comber waste are lower than a year ago. Yarns spun from these samples have about the same quality characteristics as a year earlier.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through January 21, 1977

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results						
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality		Spin. Potent.			
		2.5% span	50/2.5 unif.		Pct.	Rdg.			Mpsi	G/tex		Pct.	Pct.	lbs.
				Inches			Yarn No.							
								22s Carded Yarn						
Short Staple: Southwest 1975 1976	60 59	.95 .95	45 45	3.6 4.3	85 84	22 21	4.0 3.4	6.7 7.0	98 88	109 110	23 14	43 40		
Medium Staple: Southeast 1975 1976	44 50	1.07 1.08	44 45	4.2 4.6	83 85	22 23	3.9 3.3	6.3 6.3	97 106	97 98	26 20	53 56		
South Central 1975 1976	114 124	1.10 1.08	45 44	4.3 4.2	85 88	23 23	3.1 2.7	5.7 6.3	105 107	101 99	21 17	59 56		
Southwest 1975 1976	36 38	1.05 1.06	43 45	3.7 4.0	83 82	22 22	3.7 3.5	6.2 6.8	103 103	88 92	32 25	56 55		
West 1975 1976	69 73	1.12 1.11	45 45	4.1 4.2	92 89	26 25	2.3 2.2	5.5 5.8	123 118	93 89	23 19	69 66		
U.S. Average 1975 1976	263 285	1.09 1.08	45 45	4.2 4.2	86 87	23 24	3.1 2.8	5.8 6.2	108 109	97 96	23 19	60 58		
Significant dif- ference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3		

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States
through January 21, 1977
1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results									
		Length		Unif	Mike	Strength		SA Non- lint	P&C Waste	Pct.	Pct.	Yarn Quality				SPY	
		Span	Zero			1/8" gage	gauge					carded	combed	Appearance	Imprfctns card		combed
	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.		Lbs.	Lbs.	Indx	Indx	No.	No.		
<u>22s Carded & Combed Yarn</u>																	
Long Staple: Southeast	18	1.09	43	4.2	85	22	3.7	9.6	18.8	91	115	110	119	19	10		
	12	1.14	45	4.4	86	25	3.1	6.7	15.8	115	136	104	116	20	8		
South Central	6	1.11	43	4.0	88	23	3.8	9.2	18.1	104	125	110	120	19	9		
	3	1.12	42	3.7	91	26	3.4	6.8	20.3	109	137	97	103	13	10		
West	17	1.16	45	3.3	93	26	3.1	8.7	16.1	138	158	82	96	39	22		
	5	1.19	46	3.4	87	27	4.0	9.1	13.4	144	166	84	94	35	16		
U.S. Average	41	1.12	44	3.8	89	24	3.5	9.1	17.6	113	135	99	109	28	15		
	20	1.15	45	4.0	87	26	3.3	7.3	15.9	121	143	98	108	23	11		
<u>50's Combed Yarn</u>																	
<u>American Pima</u>																	
Extra Long Staple: West	13	1.47	31	3.6	104	33	3.2	7.4	18.4	67			108		2		
	18	1.49	31	3.6	102	34	2.7	6.8	16.0	65			110		2		
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	5	5	5	2	2		
										4(22s) 2(50s)					3		

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns											
No	Grade	Name & Code	Stple	32s	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial	
					2.5% span	Unif		Zero Gage	1/8" Gage		Pct	Pct	Gra	Yel		Lbs 74 tx	Lbs 27 tx	8s or 74 tx	22s or 27 tx	Pct 74 tx	Pct 27 tx	8s or 74 tx	22s or 27 tx		8s or 74 tx
SOUTHWEST AREA																									
NORTHWEST TEXAS																									
LAMESA																									
3	S LM	LT SP	42 $\frac{1}{2}$	31	0.97	44	3.4	84	20	8.2	3.9	2	4	7.1	284	92	6.9	120	100	27	17	47			
LOCKNEY																									
3	S LM	SP	43 $\frac{1}{2}$	29	0.97	44	3.1	76	21	7.1	3.9	4	6	7.4	275	87	6.2	110	100	59	38	44			
LCOP																									
3	S LM	LT SP	42 $\frac{1}{2}$	30	0.88	47	4.8	87	19	6.8	2.7	2	3	7.1	255	77	5.0	120	110	26	13	30			
OLNEY																									
2	MID	LT SP	32	31	0.97	45	5.4	86	21	7.5	2.6	2	3	6.1	282	91	6.0	130	120	14	10	44			
SILVERTON																									
3	S LM	LT SP	42 $\frac{1}{2}$	30	0.91	45	4.0	83	20	7.5	2.7	3	5	5.7	276	88	6.2	120	110	37	22	38			

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n	S.A. Non- Lint		Color Raw Stock		P & C Waste		Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
No	Grade	Stple	32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	Gra	Yel	Pct	Waste	Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	No																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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* 100% selected for tests, less than 100% in area

1/ Reduced from 41 because of bark

2/ Reduced from 43 because of bark

Table 4 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Combed Yarns									
No	Grade	Stple	Name & Code	Array Length		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imprfect'ns		
				UOL	CV		Zero Gage	1/8" Gage			Gra	Yel			50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx			
32s				In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	
WEST AREA																							
ARIZONA																							
3	CASA GRANDE	4	46	1.52	30	4.1	108	37	7.4	3.5	4	5	7.5	17.1	66	35	5.3	4.7	110	100	1	1	
														100 PERCENT									
3	WENDEN	4	44	1.48	33	3.3	104	34	7.9	3.8	4	5	7.2	17.2	65	34	5.5	4.7	100	110	1	2	
														100 PERCENT									